

WHAT IS CLAIMED IS:

1. An implantable mechanical device with adjustable geometry, comprising:

- an input part (1) having a first cylindrical end (11),
- an output part (2), having two second (21) and third (22) cylindrical ends,

which are opposite one another, and which are aligned, and where the second cylindrical end (21) has a diameter equal to that of the said first cylindrical end (11),

- a reference part (3) having a fourth cylindrical end (31) of the same diameter as the said third cylindrical end (22),
- a transported part (4), having a helicoidal link (51, 52) with the said output part (2),

• means to hold the axes of the said first (11), second (21) and fourth (31) cylindrical ends in alignment with the axes of the said helicoidal link (51, 52), and to hold juxtaposed, firstly, the said first cylindrical end (11) and the said second cylindrical end (21) and, additionally, the said third cylindrical end (22) and the said fourth cylindrical end (31), whilst allowing rotation of the said input part (1) and of the said output part (2), relative to the said reference part (3), around the said axis of the said helicoidal link (51, 52),

- at least one first friction spring (7) having an unloaded internal diameter slightly less than the common diameter of the said first (11) and second (21) cylindrical ends on which it is mounted by force, so as to straddle them,
- at least one second friction spring (8) wound in the opposite direction to the winding of the said first friction spring (7), and having an unloaded internal diameter slightly less than the common diameter of the said third (22) and fourth (31) cylindrical ends on which it is mounted by force, so as to straddle them,
- means to bind the said transported part (4) to a part of the organism,

- means to apply an alternative rotational movement to the said input part (1) from outside the organism,
- means to block rotation of the said reference part (3) relatively to a part of the organism.

2. A device according to the first claim, wherein the means to apply to the said input part (1) an alternative rotational movement from outside the organism comprise means to link to at least one bone segment.

3. A device according to the first claim, wherein the means to apply an alternative rotational movement to the said input part (1) from outside the organism comprise means placed in the soft tissues.

4. A device according to any one of the claims 1 to 3, wherein the means to apply an alternative rotational movement to the said input part 1 from outside the organism comprise elastic means.